

# ANALYTICAL REPORT

## PREPARED FOR

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## JOB DESCRIPTION

Ford LTP

## JOB NUMBER

240-205001-1

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## Job Notes

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## Authorization



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# Definitions/Glossary

Client: Arcadis U.S., Inc.  
Project/Site: Ford LTP

Job ID: 240-205001-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Arcadis U.S., Inc.  
Project: Ford LTP

Job ID: 240-205001-1

**Job ID: 240-205001-1**

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## Job Narrative 240-205001-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 5/22/2024 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.4°C.

### GC/MS VOA

Method 8260D\_SIM: The method blank for analytical batch 240-615070 contained 1,4-Dioxane above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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# Method Summary

Client: Arcadis U.S., Inc.  
Project/Site: Ford LTP

Job ID: 240-205001-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CLE
8260D SIM	Volatile Organic Compounds (GC/MS)	SW846	EET CLE
5030C	Purge and Trap	SW846	EET CLE

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396



# Sample Summary

Client: Arcadis U.S., Inc.  
Project/Site: Ford LTP

Job ID: 240-205001-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-205001-1	TRIP BLANK_85	Water	05/20/24 00:00	05/22/24 08:00
240-205001-2	MW-120_052024	Water	05/20/24 11:45	05/22/24 08:00
240-205001-3	MW-29_052024	Water	05/20/24 12:55	05/22/24 08:00
240-205001-4	MW-19_052024	Water	05/20/24 14:05	05/22/24 08:00

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- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# Detection Summary

Client: Arcadis U.S., Inc.  
Project/Site: Ford LTP

Job ID: 240-205001-1

## Client Sample ID: TRIP BLANK\_85

Lab Sample ID: 240-205001-1

No Detections.

## Client Sample ID: MW-120\_052024

Lab Sample ID: 240-205001-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	2.5		1.0	0.44	ug/L	1		8260D	Total/NA

## Client Sample ID: MW-29\_052024

Lab Sample ID: 240-205001-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	6.4		2.0	0.86	ug/L	1		8260D SIM	Total/NA

## Client Sample ID: MW-19\_052024

Lab Sample ID: 240-205001-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	170	B	2.0	0.86	ug/L	1		8260D SIM	Total/NA
cis-1,2-Dichloroethene	0.46	J	1.0	0.46	ug/L	1		8260D	Total/NA
Trichloroethene	0.66	J	1.0	0.44	ug/L	1		8260D	Total/NA
Vinyl chloride	1.2		1.0	0.45	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

Client: Arcadis U.S., Inc.  
Project/Site: Ford LTP

Job ID: 240-205001-1

**Client Sample ID: TRIP BLANK\_85**

**Lab Sample ID: 240-205001-1**

Date Collected: 05/20/24 00:00

Matrix: Water

Date Received: 05/22/24 08:00

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/29/24 17:54	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/29/24 17:54	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/29/24 17:54	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/29/24 17:54	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/29/24 17:54	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/29/24 17:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		62 - 137		05/29/24 17:54	1
4-Bromofluorobenzene (Surr)	93		56 - 136		05/29/24 17:54	1
Toluene-d8 (Surr)	99		78 - 122		05/29/24 17:54	1
Dibromofluoromethane (Surr)	102		73 - 120		05/29/24 17:54	1

# Client Sample Results

Client: Arcadis U.S., Inc.  
Project/Site: Ford LTP

Job ID: 240-205001-1

**Client Sample ID: MW-120\_052024**

**Lab Sample ID: 240-205001-2**

Date Collected: 05/20/24 11:45

Matrix: Water

Date Received: 05/22/24 08:00

**Method: SW846 8260D SIM - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			05/29/24 23:28	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	92		68 - 127					05/29/24 23:28	1

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/29/24 18:43	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/29/24 18:43	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/29/24 18:43	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/29/24 18:43	1
<b>Trichloroethene</b>	<b>2.5</b>		1.0	0.44	ug/L			05/29/24 18:43	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/29/24 18:43	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	114		62 - 137					05/29/24 18:43	1
4-Bromofluorobenzene (Surr)	94		56 - 136					05/29/24 18:43	1
Toluene-d8 (Surr)	98		78 - 122					05/29/24 18:43	1
Dibromofluoromethane (Surr)	102		73 - 120					05/29/24 18:43	1

# Client Sample Results

Client: Arcadis U.S., Inc.  
Project/Site: Ford LTP

Job ID: 240-205001-1

**Client Sample ID: MW-29\_052024**

**Lab Sample ID: 240-205001-3**

Date Collected: 05/20/24 12:55

Matrix: Water

Date Received: 05/22/24 08:00

**Method: SW846 8260D SIM - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	6.4		2.0	0.86	ug/L			05/29/24 23:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		68 - 127					05/29/24 23:51	1

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/29/24 19:08	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/29/24 19:08	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/29/24 19:08	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/29/24 19:08	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/29/24 19:08	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/29/24 19:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		62 - 137					05/29/24 19:08	1
4-Bromofluorobenzene (Surr)	92		56 - 136					05/29/24 19:08	1
Toluene-d8 (Surr)	98		78 - 122					05/29/24 19:08	1
Dibromofluoromethane (Surr)	101		73 - 120					05/29/24 19:08	1

# Client Sample Results

Client: Arcadis U.S., Inc.  
Project/Site: Ford LTP

Job ID: 240-205001-1

**Client Sample ID: MW-19\_052024**

**Lab Sample ID: 240-205001-4**

Date Collected: 05/20/24 14:05

Matrix: Water

Date Received: 05/22/24 08:00

**Method: SW846 8260D SIM - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	170	B	2.0	0.86	ug/L			05/31/24 18:48	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	108		68 - 127					05/31/24 18:48	1
1,2-Dichloroethane-d4 (Surr)	109		68 - 127					06/01/24 09:41	1

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/29/24 17:41	1
cis-1,2-Dichloroethene	0.46	J	1.0	0.46	ug/L			05/29/24 17:41	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/29/24 17:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/29/24 17:41	1
Trichloroethene	0.66	J	1.0	0.44	ug/L			05/29/24 17:41	1
Vinyl chloride	1.2		1.0	0.45	ug/L			05/29/24 17:41	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	108		62 - 137					05/29/24 17:41	1
4-Bromofluorobenzene (Surr)	94		56 - 136					05/29/24 17:41	1
Toluene-d8 (Surr)	94		78 - 122					05/29/24 17:41	1
Dibromofluoromethane (Surr)	109		73 - 120					05/29/24 17:41	1

# Surrogate Summary

Client: Arcadis U.S., Inc.  
Project/Site: Ford LTP

Job ID: 240-205001-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA	BFB	TOL	DBFM
		(62-137)	(56-136)	(78-122)	(73-120)
180-174436-B-10 MS	Matrix Spike	104	112	100	97
180-174436-B-10 MSD	Matrix Spike Duplicate	102	110	99	99
240-204762-F-4 MS	Matrix Spike	96	98	94	96
240-204762-F-4 MSD	Matrix Spike Duplicate	98	101	95	103
240-205001-1	TRIP BLANK_85	113	93	99	102
240-205001-2	MW-120_052024	114	94	98	102
240-205001-3	MW-29_052024	115	92	98	101
240-205001-4	MW-19_052024	108	94	94	109
LCS 240-614655/3	Lab Control Sample	105	109	100	100
LCS 240-614711/5	Lab Control Sample	97	102	100	100
MB 240-614655/5	Method Blank	111	94	98	100
MB 240-614711/8	Method Blank	107	94	94	104

#### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)  
TOL = Toluene-d8 (Surr)  
DBFM = Dibromofluoromethane (Surr)

## Method: 8260D SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(68-127)
240-205001-2	MW-120_052024	92
240-205001-3	MW-29_052024	86
240-205001-4	MW-19_052024	108
240-205001-4	MW-19_052024	109
240-205012-E-3 MS	Matrix Spike	88
240-205012-E-3 MSD	Matrix Spike Duplicate	92
240-205035-A-2 MS	Matrix Spike	102
240-205035-A-2 MSD	Matrix Spike Duplicate	102
240-205042-A-2 MS	Matrix Spike	104
240-205042-A-2 MSD	Matrix Spike Duplicate	105
LCS 240-614706/4	Lab Control Sample	88
LCS 240-615070/4	Lab Control Sample	106
LCS 240-615090/4	Lab Control Sample	105
MB 240-614706/6	Method Blank	88
MB 240-615070/6	Method Blank	106
MB 240-615090/6	Method Blank	106

#### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

# QC Sample Results

Client: Arcadis U.S., Inc.  
Project/Site: Ford LTP

Job ID: 240-205001-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 240-614655/5

Matrix: Water

Analysis Batch: 614655

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/29/24 17:29	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/29/24 17:29	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/29/24 17:29	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/29/24 17:29	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/29/24 17:29	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/29/24 17:29	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	111		62 - 137		05/29/24 17:29	1
4-Bromofluorobenzene (Surr)	94		56 - 136		05/29/24 17:29	1
Toluene-d8 (Surr)	98		78 - 122		05/29/24 17:29	1
Dibromofluoromethane (Surr)	100		73 - 120		05/29/24 17:29	1

Lab Sample ID: LCS 240-614655/3

Matrix: Water

Analysis Batch: 614655

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
1,1-Dichloroethene	25.0	25.4		ug/L		102	63 - 134
cis-1,2-Dichloroethene	25.0	24.6		ug/L		99	77 - 123
Tetrachloroethene	25.0	23.8		ug/L		95	76 - 123
trans-1,2-Dichloroethene	25.0	25.0		ug/L		100	75 - 124
Trichloroethene	25.0	26.5		ug/L		106	70 - 122
Vinyl chloride	12.5	9.80		ug/L		78	60 - 144

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	105		62 - 137
4-Bromofluorobenzene (Surr)	109		56 - 136
Toluene-d8 (Surr)	100		78 - 122
Dibromofluoromethane (Surr)	100		73 - 120

Lab Sample ID: 180-174436-B-10 MS

Matrix: Water

Analysis Batch: 614655

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	104		62 - 137
4-Bromofluorobenzene (Surr)	112		56 - 136
Toluene-d8 (Surr)	100		78 - 122
Dibromofluoromethane (Surr)	97		73 - 120

Lab Sample ID: 180-174436-B-10 MSD

Matrix: Water

Analysis Batch: 614655

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	102		62 - 137

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# QC Sample Results

Client: Arcadis U.S., Inc.  
Project/Site: Ford LTP

Job ID: 240-205001-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 180-174436-B-10 MSD**  
**Matrix: Water**  
**Analysis Batch: 614655**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	110		56 - 136
Toluene-d8 (Surr)	99		78 - 122
Dibromofluoromethane (Surr)	99		73 - 120

**Lab Sample ID: MB 240-614711/8**  
**Matrix: Water**  
**Analysis Batch: 614711**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	1.0	0.49	ug/L			05/29/24 13:05	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.46	ug/L			05/29/24 13:05	1
Tetrachloroethene	1.0	U	1.0	0.44	ug/L			05/29/24 13:05	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.51	ug/L			05/29/24 13:05	1
Trichloroethene	1.0	U	1.0	0.44	ug/L			05/29/24 13:05	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/29/24 13:05	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	107		62 - 137		05/29/24 13:05	1
4-Bromofluorobenzene (Surr)	94		56 - 136		05/29/24 13:05	1
Toluene-d8 (Surr)	94		78 - 122		05/29/24 13:05	1
Dibromofluoromethane (Surr)	104		73 - 120		05/29/24 13:05	1

**Lab Sample ID: LCS 240-614711/5**  
**Matrix: Water**  
**Analysis Batch: 614711**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
1,1-Dichloroethene	25.0	25.1		ug/L		100	63 - 134
cis-1,2-Dichloroethene	25.0	25.7		ug/L		103	77 - 123
Tetrachloroethene	25.0	25.0		ug/L		100	76 - 123
trans-1,2-Dichloroethene	25.0	23.8		ug/L		95	75 - 124
Trichloroethene	25.0	24.2		ug/L		97	70 - 122
Vinyl chloride	12.5	11.7		ug/L		93	60 - 144

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	97		62 - 137
4-Bromofluorobenzene (Surr)	102		56 - 136
Toluene-d8 (Surr)	100		78 - 122
Dibromofluoromethane (Surr)	100		73 - 120

**Lab Sample ID: 240-204762-F-4 MS**  
**Matrix: Water**  
**Analysis Batch: 614711**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec Limits
				Result	Qualifier				
1,1-Dichloroethene	100	U	2500	2280		ug/L		91	56 - 135
cis-1,2-Dichloroethene	94	J	2500	2550		ug/L		98	66 - 128
Tetrachloroethene	100	U	2500	2300		ug/L		92	62 - 131

Eurofins Cleveland

# QC Sample Results

Client: Arcadis U.S., Inc.  
Project/Site: Ford LTP

Job ID: 240-205001-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 240-204762-F-4 MS**  
**Matrix: Water**  
**Analysis Batch: 614711**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
trans-1,2-Dichloroethene	190		2500	2370		ug/L		87	56 - 136	
Trichloroethene	2800		2500	4720		ug/L		76	61 - 124	
Vinyl chloride	100	U	1250	1100		ug/L		88	43 - 157	
<b>MS MS</b>										
Surrogate	%Recovery	Qualifier	Limits							
1,2-Dichloroethane-d4 (Surr)	96		62 - 137							
4-Bromofluorobenzene (Surr)	98		56 - 136							
Toluene-d8 (Surr)	94		78 - 122							
Dibromofluoromethane (Surr)	96		73 - 120							

**Lab Sample ID: 240-204762-F-4 MSD**  
**Matrix: Water**  
**Analysis Batch: 614711**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	Limits	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier						Limit	
1,1-Dichloroethene	100	U	2500	2310		ug/L		92	56 - 135	1	26	
cis-1,2-Dichloroethene	94	J	2500	2560		ug/L		99	66 - 128	0	14	
Tetrachloroethene	100	U	2500	2310		ug/L		92	62 - 131	0	20	
trans-1,2-Dichloroethene	190		2500	2380		ug/L		87	56 - 136	0	15	
Trichloroethene	2800		2500	4810		ug/L		79	61 - 124	2	15	
Vinyl chloride	100	U	1250	1120		ug/L		90	43 - 157	2	24	
<b>MSD MSD</b>												
Surrogate	%Recovery	Qualifier	Limits									
1,2-Dichloroethane-d4 (Surr)	98		62 - 137									
4-Bromofluorobenzene (Surr)	101		56 - 136									
Toluene-d8 (Surr)	95		78 - 122									
Dibromofluoromethane (Surr)	103		73 - 120									

## Method: 8260D SIM - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 240-614706/6**  
**Matrix: Water**  
**Analysis Batch: 614706**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			05/29/24 23:04	1
<b>MB MB</b>									
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dichloroethane-d4 (Surr)	88		68 - 127		05/29/24 23:04	1			

**Lab Sample ID: LCS 240-614706/4**  
**Matrix: Water**  
**Analysis Batch: 614706**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	Limits



# QC Sample Results

Client: Arcadis U.S., Inc.  
Project/Site: Ford LTP

Job ID: 240-205001-1

## Method: 8260D SIM - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 240-614706/4**  
**Matrix: Water**  
**Analysis Batch: 614706**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	88		68 - 127

**Lab Sample ID: 240-205012-E-3 MS**  
**Matrix: Water**  
**Analysis Batch: 614706**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	2.0	U	10.0	9.87		ug/L		99	20 - 180

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	88		68 - 127

**Lab Sample ID: 240-205012-E-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 614706**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	10.5		ug/L		105	20 - 180	6	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		68 - 127

**Lab Sample ID: MB 240-615070/6**  
**Matrix: Water**  
**Analysis Batch: 615070**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.66	J	2.0	0.86	ug/L			05/31/24 13:58	1

	MB	MB		Prepared	Analyzed	Dil Fac
Surrogate	%Recovery	Qualifier	Limits			
1,2-Dichloroethane-d4 (Surr)	106		68 - 127		05/31/24 13:58	1

**Lab Sample ID: LCS 240-615070/4**  
**Matrix: Water**  
**Analysis Batch: 615070**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	10.0	11.9		ug/L		119	75 - 121

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	106		68 - 127

# QC Sample Results

Client: Arcadis U.S., Inc.  
Project/Site: Ford LTP

Job ID: 240-205001-1

## Method: 8260D SIM - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 240-205035-A-2 MS**  
**Matrix: Water**  
**Analysis Batch: 615070**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	3.3	B	10.0	13.3		ug/L		100	20 - 180
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
1,2-Dichloroethane-d4 (Surr)	102		68 - 127						

**Lab Sample ID: 240-205035-A-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 615070**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dioxane	3.3	B	10.0	13.4		ug/L		101	20 - 180	1	20
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
1,2-Dichloroethane-d4 (Surr)	102		68 - 127								

**Lab Sample ID: MB 240-615090/6**  
**Matrix: Water**  
**Analysis Batch: 615090**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			06/01/24 02:02	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>MB Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	106		68 - 127					06/01/24 02:02	1

**Lab Sample ID: LCS 240-615090/4**  
**Matrix: Water**  
**Analysis Batch: 615090**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	10.0	10.8		ug/L		108	75 - 121
<b>Surrogate</b>	<b>%Recovery</b>	<b>LCS Qualifier</b>	<b>Limits</b>				
1,2-Dichloroethane-d4 (Surr)	105		68 - 127				

**Lab Sample ID: 240-205042-A-2 MS**  
**Matrix: Water**  
**Analysis Batch: 615090**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	2.3		10.0	11.6		ug/L		93	20 - 180
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
1,2-Dichloroethane-d4 (Surr)	104		68 - 127						

# QC Sample Results

Client: Arcadis U.S., Inc.  
Project/Site: Ford LTP

Job ID: 240-205001-1

## Method: 8260D SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-205042-A-2 MSD

Matrix: Water

Analysis Batch: 615090

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dioxane	2.3		10.0	11.7		ug/L		94	20 - 180	1	20
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>MSD Limits</b>								
1,2-Dichloroethane-d4 (Surr)	105		68 - 127								

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# QC Association Summary

Client: Arcadis U.S., Inc.  
Project/Site: Ford LTP

Job ID: 240-205001-1

## GC/MS VOA

### Analysis Batch: 614655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-205001-1	TRIP BLANK_85	Total/NA	Water	8260D	
240-205001-2	MW-120_052024	Total/NA	Water	8260D	
240-205001-3	MW-29_052024	Total/NA	Water	8260D	
MB 240-614655/5	Method Blank	Total/NA	Water	8260D	
LCS 240-614655/3	Lab Control Sample	Total/NA	Water	8260D	
180-174436-B-10 MS	Matrix Spike	Total/NA	Water	8260D	
180-174436-B-10 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

### Analysis Batch: 614706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-205001-2	MW-120_052024	Total/NA	Water	8260D SIM	
240-205001-3	MW-29_052024	Total/NA	Water	8260D SIM	
MB 240-614706/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-614706/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-205012-E-3 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-205012-E-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

### Analysis Batch: 614711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-205001-4	MW-19_052024	Total/NA	Water	8260D	
MB 240-614711/8	Method Blank	Total/NA	Water	8260D	
LCS 240-614711/5	Lab Control Sample	Total/NA	Water	8260D	
240-204762-F-4 MS	Matrix Spike	Total/NA	Water	8260D	
240-204762-F-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

### Analysis Batch: 615070

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-205001-4	MW-19_052024	Total/NA	Water	8260D SIM	
MB 240-615070/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-615070/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-205035-A-2 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-205035-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

### Analysis Batch: 615090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-205001-4	MW-19_052024	Total/NA	Water	8260D SIM	
MB 240-615090/6	Method Blank	Total/NA	Water	8260D SIM	
LCS 240-615090/4	Lab Control Sample	Total/NA	Water	8260D SIM	
240-205042-A-2 MS	Matrix Spike	Total/NA	Water	8260D SIM	
240-205042-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D SIM	

# Lab Chronicle

Client: Arcadis U.S., Inc.  
Project/Site: Ford LTP

Job ID: 240-205001-1

## Client Sample ID: TRIP BLANK\_85

Lab Sample ID: 240-205001-1

Date Collected: 05/20/24 00:00

Matrix: Water

Date Received: 05/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	614655	TJL2	EET CLE	05/29/24 17:54

## Client Sample ID: MW-120\_052024

Lab Sample ID: 240-205001-2

Date Collected: 05/20/24 11:45

Matrix: Water

Date Received: 05/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	614655	TJL2	EET CLE	05/29/24 18:43
Total/NA	Analysis	8260D SIM		1	614706	MDH	EET CLE	05/29/24 23:28

## Client Sample ID: MW-29\_052024

Lab Sample ID: 240-205001-3

Date Collected: 05/20/24 12:55

Matrix: Water

Date Received: 05/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	614655	TJL2	EET CLE	05/29/24 19:08
Total/NA	Analysis	8260D SIM		1	614706	MDH	EET CLE	05/29/24 23:51

## Client Sample ID: MW-19\_052024

Lab Sample ID: 240-205001-4

Date Collected: 05/20/24 14:05

Matrix: Water

Date Received: 05/22/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	614711	SAM	EET CLE	05/29/24 17:41
Total/NA	Analysis	8260D SIM		1	615070	MDH	EET CLE	05/31/24 18:48
Total/NA	Analysis	8260D SIM		1	615090	MDH	EET CLE	06/01/24 09:41

**Laboratory References:**

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

# Accreditation/Certification Summary

Client: Arcadis U.S., Inc.  
 Project/Site: Ford LTP

Job ID: 240-205001-1

## Laboratory: Eurofins Cleveland


All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-28-25
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-27-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	06-30-24
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-24



Chain of Custody Record

TestAmerica Laboratory location: Brighton — 10448 Citation Drive, Suite 200 / Brighton, MI 48116 / 810-229-2763

Client Contact			Regulatory program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other										TestAmerica Laboratories, Inc.				
Company Name: Arcadis			Client Project Manager: Kris Hinskey				Site Contact: Christina Weaver				Lab Contact: Mike DelMonco				COC No:		
Address: 28550 Cabot Drive, Suite 500			Telephone: 248-994-2240				Telephone: 248-994-2240				Telephone: 330-497-9396				1 of 1 COCs		
City/State/Zip: Novi, MI, 48377			Email: kristoffer.hinskey@arcadis.com				Analysis Turnaround Time				Analyses				For lab use only		
Phone: 248-994-2240			Sampler Name: <u>LOTTIE JAY</u>				TAT if different from below				<input type="checkbox"/> 3 weeks <input checked="" type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day				Walk-in client		
Project Name: Ford LTP			Method of Shipment/Carrier:				10 day								Lab sampling		
Project Number: 30206169.0401.03			Shipping/Tracking No:				Matrix Air Aqueous Sediment Solid Other Containers & Preservatives H2SO4 HN03 HCl NaOH ZnAc/NOH Uppres Other				Filtered Sample (Y/N) Composite-C / Grab-G 1,1-DCE 8260D cis-1,2-DCE 8260D Trans-1,2-DCE 8260D PCE 8260D TCE 8260D Vinyl Chloride 8260D 1,4-Dioxane 8260D SIM				Job/SDG No:		
PO # US3410018772			Sample Identification												Sample Date		Sample Time
✓ TRIP BLANK_ 85			---		---		1		1		NG X X X X X X		1 Trip Blank				
✓ MW-120_052024			5/24/24		1145		6		6		NG X X X X X X		3 VOAs for 8260D 3 VOAs for 8260D SIM				
✓ MW-29_052024			1		1255		6		6		NG X X X X X X						
✓ MW-19_052024			1		1405		6		6		NG X X X X X X						
																	
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)												
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown					<input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months												
Special Instructions/QC Requirements & Comments:																	
Submit all results through Cadena at jtomalia@cadenco.com. Cadena #E203728 Level IV Reporting requested.																	
Relinquished by: <u>[Signature]</u>			Company: <u>ARCADIS</u>			Date/Time: <u>5/20/24 1520</u>			Received by: <u>NOUR COLD STORAGE</u>			Company: <u>ARCADIS</u>			Date/Time: <u>5/20/24 1520</u>		
Relinquished by: <u>[Signature]</u>			Company: <u>ARCADIS</u>			Date/Time: <u>5/21/24 1310</u>			Received by: <u>[Signature]</u>			Company: <u>EETA</u>			Date/Time: <u>5/21/24 1310</u>		
Relinquished by: <u>[Signature]</u>			Company: <u>EETA</u>			Date/Time: <u>5/21/24 1315</u>			Received in Laboratory by: <u>TAMMY ROYER</u>			Company: <u>EETAC</u>			Date/Time: <u>5-22-24 800</u>		



5/20/24

Eurofins Cleveland Sample Receipt Form/Narrative  
 Barberon Facility  
 Login # \_\_\_\_\_

Client Arcadia Site Name \_\_\_\_\_  
 Cooler Received on 5-22-24 Opened on \_\_\_\_\_  
 FedEx: 1st Grd Exp UPS FAS Waypoint Waypoint Client Drop Off Eurofins Courier Other \_\_\_\_\_  
 Receipt After-hours Drop-off Date/Time \_\_\_\_\_ Storage Location \_\_\_\_\_

Cooler unpacked by:  
**TAMMY ROYER**

Eurofins Cooler # ES Foam Box Client Cooler Box Other \_\_\_\_\_  
 Packing material used: Bubble Wrap Foam Plastic Bag None Other \_\_\_\_\_  
 COOLANT: Wet Ice Blue Ice Dry Ice Water None \_\_\_\_\_

1 Cooler temperature upon receipt  See Multiple Cooler Form  
 IR GUN # 18 (CF 0.0 °C) Observed Cooler Temp. 3.4 °C Corrected Cooler Temp. 3.4 °C

Tests that are not checked for pH by Receiving  
 VOAs  
 Oil and Grease  
 TOC

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 2 Yes 2 No 0 NA 0  
 -Were the seals on the outside of the cooler(s) signed & dated? Yes 2 No 0 NA 0  
 -Were tamper/custody seals on the bottle(s) or bottle kits (LIHg/MeHg)? Yes 2 No 0 NA 0  
 -Were tamper/custody seals intact and uncompromised? Yes 2 No 0 NA 0  
 3 Shippers' packing slip attached to the cooler(s)? Yes 2 No 0  
 4 Did custody papers accompany the sample(s)? Yes 2 No 0  
 5 Were the custody papers relinquished & signed in the appropriate place? Yes 2 No 0  
 6 Was/were the person(s) who collected the samples clearly identified on the COC? Yes 2 No 0  
 7 Did all bottles arrive in good condition (Unbroken)? Yes 2 No 0  
 8 Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes 2 No 0  
 9 For each sample, does the COC specify preservative (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)? Yes 2 No 0  
 10 Were correct bottle(s) used for the test(s) indicated? Yes 2 No 0  
 11 Sufficient quantity received to perform indicated analyses? Yes 2 No 0  
 12 Are these work share samples and all listed on the COC? Yes 2 No 0  
 If yes, Questions 13-17 have been checked at the originating laboratory  
 13 Were all preserved sample(s) at the correct pH upon receipt? Yes 2 No 0 NA 0 pH Strip Lot# HC439975  
 14 Were VOAs on the COC? Yes 2 No 0  
 15 Were air bubbles > 6 mm in any VOA vials?  Larger than this Yes 2 No 0 NA 0  
 16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # covered Yes 2 No 0  
 17 Was a LIHg or MeHg trip blank present? Yes 2 No 0  
 Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal Voice Mail Other \_\_\_\_\_  
 Concerning \_\_\_\_\_

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES  additional next page Samples processed by: \_\_\_\_\_

19 SAMPLE CONDITION  
 Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.  
 Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (Notify PM)

20 SAMPLE PRESERVATION  
 Sample(s) \_\_\_\_\_ were further preserved in the laboratory  
 Time preserved: \_\_\_\_\_ Preservative(s) added/Lot number(s) \_\_\_\_\_  
 VOA Sample Preservation Date/Time VOAs Frozen \_\_\_\_\_



# DATA VERIFICATION REPORT



June 03, 2024

Megan Meckley  
Arcadis  
28550 Cabot Drive  
Suite 500  
Novi, MI US 48377

CADENA project ID: E203728  
Project: Ford Livonia Transmission Plant - Soil Gas, Ground Water and Soil  
Project number: 30206169.401.03  
Event Specific Scope of Work References: Sample COC  
Laboratory: Eurofins Environment Testing LLC - Cleveland  
Laboratory submittal: 205001-1  
Sample date: 2024-05-20  
Report received by CADENA: 2024-06-03  
Initial Data Verification completed by CADENA: 2024-06-03  
Number of Samples:4  
Sample Matrices:Water  
Test Categories:GCMS VOC

**Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.**

The following minor QC exceptions or missing information were noted:

METHOD BLANKS had detections BELOW the Reporting Limit (RL) as noted below. Client sample results were either non-detect for these analytes or had concentrations greater than 5X the method blank levels so qualification of client sample results was not required: GCMS VOC-SIM QC batch 615070 - 1,4-dioxane.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

## CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

# Analytical Results Summary

CADENA Project ID: E203728

Laboratory: Eurofins Environment Testing LLC - Cleveland

Laboratory Submittal: 205001-1

<b>Sample Name:</b>	TRIP BLANK_85	MW-120_052024	MW-29_052024	MW-19_052024
<b>Lab Sample ID:</b>	2402050011	2402050012	2402050013	2402050014
<b>Sample Date:</b>	5/20/2024	5/20/2024	5/20/2024	5/20/2024

Analyte	Cas No.	TRIP BLANK_85				MW-120_052024				MW-29_052024				MW-19_052024			
		Report Result	Limit	Units	Valid Qualifier	Report Result	Limit	Units	Valid Qualifier	Report Result	Limit	Units	Valid Qualifier	Report Result	Limit	Units	Valid Qualifier
<b>GC/MS VOC</b>																	
<u>OSW-8260D</u>																	
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	0.46	1.0	ug/l	J
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	2.5	1.0	ug/l	---	ND	1.0	ug/l	---	0.66	1.0	ug/l	J
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	1.2	1.0	ug/l	---
<u>OSW-8260DSIM</u>																	
1,4-Dioxane	123-91-1					ND	2.0	ug/l	---	6.4	2.0	ug/l	---	170	2.0	ug/l	---